1. Which of the following function component principles helps you identify errors well?   1 / 1 point

   ◉ Unidirectional data flow

   ○ Reusability

   ○ Composition

   ○ Customization

   ✓ **Correct**
   Correct! The unidirectional data flow makes it easy to follow how data gets passed and updated throughout your application, enabling errors to be spotted easily.

2. What purpose does higher-order function component composition serve?   1 / 1 point

   ◉ Adding features without rewriting code

   ○ Arranging components in a hierarchy

   ○ Passing data from a parent component to its child

   ○ Transferring data between components

   ✓ **Correct**
   Correct! Higher-order components allow you to add features such as state management or logic without modifying its implementation or duplicating code.

3. How does the hierarchy principle benefit component organization in React?   1 / 1 point

   ○ It enables component manipulation by the virtual DOM.

   ○ It enables efficient data passing.

   ○ It allows easy manipulation of component states.

   ◉ It provides modular design using parent-child components.

   ✓ **Correct**
   Correct! The hierarchy principle allows you to arrange components in a hierarchy with parent and child components. This hierarchical structure also assists with organization and modular design.

4. Which hook function should you use to update the user's name from "Marie" to "Marie Torres" in React?   1 / 1 point

   ○ setButtonClicked("Marie Torres ")

   ◉ setName("Marie Torres ")

   ○ useState("Marie Torres ")

   ○ updateName("Marie Torres ")

   ✓ **Correct**
   Correct. In React class components, you use the setState function to update state variables.

5. If you allow users to collapse or expand a section for better readability, which approach would provide the best user experience to control screen clutter?   1 / 1 point

   ○ Use setName to update the information.

   ○ Use useState for rendering the conditional information.

   ◉ Create a separate component with a toggle button.

   ○ Display the information alongside the other content.

   ✓ **Correct**
   Correct! Creating a separate component dedicated to the nutritional information with a button to toggle visibility allows users to expand or collapse the section as needed without cluttering the main recipe view. This approach enhances user experience by offering flexibility while maintaining readability and accessibility.

6. Which phase of a functional component's lifecycle does React use to initialize a component and prepare it for rendering on the DOM?

- ◉ Mounting phase
- ◯ Unmounting phase
- ◯ Updating phase
- ◯ Error-handling phase

> ✓ **Correct**
> Correct! During the mounting phase, React initializes the functional component, preparing it for rendering on the DOM.

7. Examine the following code:

```
useEffect(() => {
 fetch('https://api.example.com/products')
 .then(response => response.json())
 .then(data => setProducts(data))
 .catch(error => console.error('Error fetching products:', error));
}, [ ]);
```

What purpose does the empty dependency array, [], serve?

- ◯ It declares and initializes state variables within the component.
- ◯ It triggers a re-render of the component whenever the data changes.
- ◉ It fetches the product data only once when the component mounts.
- ◯ It responds to user actions and state modifications.

> ✓ **Correct**
> Correct! useEffect hook with an empty dependency array [] ensures that side effects execute only once after the initial render, optimizing performance and preventing unnecessary re-execution.

8. Which of the following methods removes elements from an array based on a condition?

- ◯ slice
- ◯ map
- ◉ filter
- ◯ splice

> ✓ **Correct**
> Correct! The filter method creates a new array containing only the elements that satisfy the specified condition, making it suitable for removing array elements based on user actions.

9. Which of the following can you use to provide additional data about an HTML element?

- ◉ Attributes
- ◯ Events
- ◯ Props
- ◯ Nodes

> ✓ **Correct**
> Correct! Attributes provide additional information about elements. They can specify properties, styles, or behavior.

10. Which key benefit of React's virtual DOM enables efficient updates?

1 / 1 point

○ Simple development

◉ Re-rendering only the updated component

○ Cross-platform compatibility

○ Debugging and testing

✓ **Correct**
Correct! Because of React's state management, in conjunction with the virtual DOM, React notifies the actual DOM to only re-render the updated component.